

WHAT IS CLAIMED IS:

1. A transmit power control method in a CDMA mobile communication system comprising:
  - a checking step of checking whether one or more base transceiver stations (BTSs) are connected;
  - 5 a calculating step of, when a result of the checking step shows that two or more BTSs are connected, selecting CH receive SIRs (Signal to Interference Ratios) corresponding to the connected BTSs, and making a calculation by using the selected values;
  - 10 a reference value changing step of changing a value of a reference value Sref according to a result of calculation;
  - 15 an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit; and
  - a reporting step of reporting the changed reference value Sref to all the connected BTSs in each of the steps,
- wherein it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs.
2. A transmit power control method in a CDMA mobile communication system according to claim 1, wherein the CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSs.
3. A transmit power control method in a CDMA mobile communication system comprising:
  - a checking step of checking whether one or more base transceiver stations (BTSs) are connected;
  - 5 a calculating step of, when a result of the checking step shows

that two or more BTSSs are connected, selecting CH receive SIRs (Signal to Interference Ratios) corresponding to the connected BTSSs, and making a calculation by using the selected values;

10 a reference value changing step of changing a value of a reference value  $S_{ref}$  according to a result of calculation;

an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value  $S_{ref}$  to an upper limit;

15 a reporting step of reporting the changed reference value  $S_{ref}$  to all the connected BTSSs in each of the steps, wherein it is possible to decide the reference value  $S_{ref}$  in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSSs;

20 said CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSSs;

said the calculation made by using the selected value in the calculating step comprises:

25 any one of the step of selecting the maximum value  $S_{max}$  and the second largest value  $S_{scd}$  from among the CH receive SIRs corresponding to the connected BTSSs and the step of selecting the maximum value  $S_{max}$  from among the CH receive SIRs corresponding to the connected BTSSs; and

30 any one of the step of calculating a difference ( $X$ ) between the  $S_{max}$  and the  $S_{scd}$  and the step of calculating the number ( $N_{bts}$ ) of BTSSs in which a difference between the  $S_{max}$  and the receive SIR becomes a predetermined value  $T_2$  or less.

4. A transmit power control method in a CDMA mobile communication system according to claim 3, wherein, when the  $X$  is equal to a predetermined threshold value  $T_1$  or more, it is decided

5 that only a small gain can be obtained by selection/synthesis, thereby  
setting the reference value Sref to an upper limit irrespective of  
results of the steps.

5. A transmit power control method in a CDMA mobile communication system according to claim 3, wherein, when the X is equal to a predetermined threshold value T1 or less, it is decided that a sufficient gain can be obtained by selection/synthesis, thereby  
5 setting the reference value Sref to a value according to the X.

6. A transmit power control method in a CDMA mobile communication system according to claim 3, wherein the reference value Sref is found by the following expression:

5  $Sref = Sref0 - (T1 - X) x$   
where  $x$  is a desired constant,  
T1 is a predetermined threshold value, and  
Sref0 is an upper limit.

7. A transmit power control method in a CDMA mobile communication system comprising:

a checking step of checking whether one or more base transceiver stations (BTSs) are connected;

5 a calculating step of, when a result of the checking step shows that two or more BTSs are connected, selecting CH receive SIRs (Signal to Interference Ratios) corresponding to the connected BTSs, and making a calculation by using the selected values;

10 a reference value changing step of changing a value of a reference value Sref according to a result of calculation;

an upper limit setting step of, when the result of the checking

step shows that only one BTS is connected, setting the reference value Sref to an upper limit;

15 a reporting step of reporting the changed reference value Sref to all the connected BTSs in each of the steps, wherein it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs;

20 said CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSs;

said the calculation made by using the selected value in the calculating step comprises:

25 any one of the step of selecting the maximum value Smax and the second largest value Sscd from among the CH receive SIRs corresponding to the connected BTSs and the step of selecting the maximum value Smax from among the CH receive SIRs corresponding to the connected BTSs; and

30 any one of the step of calculating a difference (X) between the Smax and the Sscd and the step of calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less, and

35 said reference value changing step is any one of the step of changing the reference value Sref to a value according to the difference (X) and the step of changing the reference value Sref to a value according to the number (Nbts).

8. A transmit power control method in a CDMA mobile communication system according to claim 7, wherein, when the X is equal to a predetermined threshold value T1 or more, it is decided that only a small gain can be obtained by selection/synthesis, thereby 5 setting the reference value Sref to an upper limit irrespective of

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results of the steps.

9. A transmit power control method in a CDMA mobile communication system according to claim 7, wherein, when the X is equal to a predetermined threshold value T1 or less, it is decided that a sufficient gain can be obtained by selection/synthesis, thereby 5 setting the reference value Sref to a value according to the X.

10. A transmit power control method in a CDMA mobile communication system according to claim 7, wherein the reference value Sref is found by the following expression:

5             $Sref = Sref0 - (T1 - X) x$   
              where is a desired constant,  
              T1 is a predetermined threshold value, and  
              Sref0 is an upper limit.